

Consultant proposal to change Acceptance and Pay Adjustments in Airport P-401 HMA Specifications

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Why Change?

- The current specs are working but they could be better
- Depending on the asphalt type and amount - We choose from six different pay adjustment spreadsheets
- We have problems with outlier calculations
- The majority of states are using a different formula for pay adjustments
- To incorporate comments made by our consultant, Manuel Ayres

Lot Size

- Consultant recommended that a day's production be one or more lots, and to use 4-6 sublots per lot
 - The problem with that is we have a hard time estimating a day's production, and we are used to 500 ton sublots
- Spec revised lot size to 5 sublots of 500 tons
- Allows us to have a normal lot size of 2,500 tons
- Smaller lots may be set up as 5 equal sublots of any size, or accepted based on mix design and appearance

Outliers

- Always check for outliers
 - Only calculate outliers if they exceed a standard deviation, this removes the problem of having 4 identical samples and one that is slightly different gets thrown out
 - Let each property be tested for outliers independently, regardless of sampling technique
- Spec revision adds the standard deviation (0.5% of #100 & #200, 1% for other screens, 0.5% density, and 0.1% asphalt content)
- Deleted same sample outlier throws out all tests

Reducing number of spreadsheets

- By adopting the revised lot sizes, always calculating outliers, and not differentiating between sampling techniques, we can reduce the number of spreadsheets for calculating pay adjustments from six to two
- There will be more lots and more MSG calculations

Asphalt Cement Properties

- Consultant recommended we remove pay adjustments for asphalt cement property because most states do not use them
 - Asphalt cement should be tested for acceptance
- Sampling frequency and testing language was left in the specification
- Because of Regional differences in pay adjustment testing, the language was removed. A blank subsection 8.2 was left for your use.

Asphalt Lot Pay Adjustment


- Consultant recommended we use a general composite lot pay factor instead of the worst of density vs gradation and oil content
- He felt it was more representative of the job, instead of using the worst numbers
- Only use 4 sieves for gradation (1/2, #8, #50, #200), this reduces the chance of outliers
 - Spec adds the new composite lot pay factor combining gradation, asphalt content, and density
 - Changed to using 4 sieves for pay adjustment
 - This may result in higher pay factors

Other recommendations that we are considering

- For larger airports add smoothness to pay factor as it is an important parameter and it is in FAA specifications.
 - Airports in urban areas could be tested similar to highways with a smoothness Profile Index. Note that we removed the FAA language about measuring on a 50 foot grid pattern.
- Runway friction is an important parameter for aircraft safety, and the mix should be suitable for grooving. Include requirements in mix design and test section.
 - Friction could be tested by Texas sand method or by Mu-meter


Recommendations we didn't adopt

- Instead of specifying PAB, use contract price
 - Regions prefer specifying the price adjustment base
- For small projects use 10 sublots to represent asphalt
 - Regions don't want to test more frequently than we are specifying.



What is next?

- Statewide materials will be back testing the pay adjustment formulas using data from this summer
- The specifications will be reviewed by the regions this winter and finalized by the spring
- Specification changes will be reviewed by FAA in April
- Common language will be brought over to highways



Thank you
